



US005830529A

United States Patent [19]
Ross

[11] Patent Number: 5,830,529
[45] Date of Patent: Nov. 3, 1998

[54] PERIMETER COATING ALIGNMENT

[76] Inventor: Gregory E. Ross, 2007 Long Leaf Ct.,
Santa Rosa, Calif. 95403

[21] Appl. No.: 780,594

[22] Filed: Jan. 8, 1997

Related U.S. Application Data

[60] Provisional application No. 60/009,696 Jan. 11, 1996.

[51] Int. Cl.⁶ B41M 3/12; B05D 3/00;
B05D 1/36; B32B 31/00[52] U.S. Cl. 427/152; 427/146; 427/148;
427/149; 427/258; 427/270; 427/271; 427/276;
427/375; 427/402; 156/230; 156/240; 156/239;
156/252[58] Field of Search 427/146, 147,
427/148, 149, 152, 164, 258, 271, 270,
276, 284, 375, 402; 156/230, 240, 239,
252; 428/914

[56] References Cited

U.S. PATENT DOCUMENTS

4,104,111	8/1978 Mack	156/656
4,337,289	6/1982 Reed et al.	428/195
4,673,609	6/1987 Hill	428/187
4,936,212	6/1990 Moss	101/216
5,069,954	12/1991 Cole et al.	428/202
5,288,358	2/1994 Logan	156/268
5,312,645	5/1994 Dressler	427/148
5,391,082	2/1995 Airhart	439/68
5,525,177	6/1996 Ross	156/240
5,560,796	10/1996 Yoshimura	156/240

Primary Examiner—Shrive Beck

Assistant Examiner—Michael Barr

Attorney, Agent, or Firm—Feix & Feix

[57] ABSTRACT

A method of forming a scratch resistant color ink pattern of multi-color coatings (5) onto a see-through panel (6) with exact registration between successive color coatings of the pattern. The method of the invention includes the steps of: providing a base material (1) having an ink printable release coating on one side thereof; applying a first color coating of ceramic ink (75) to the printable release coating side of the base material (1); applying at least one additional color coating of ceramic ink (76) over at least a portion of the first color coating of ceramic ink (75); perforating the base material to provide a pattern of light passages (28) therethrough, the light passages (28) defining aligned edges of successive color coatings of ceramic inks to ensure exact registration between said successive color coatings of ceramic inks; transferring the pattern of color coatings of ceramic inks (5) onto a surface of a see-through panel (6); and heating the see-through panel (6) to fuse said pattern of color coatings of ceramic inks (5) onto said surface of said see-through panel (6). In one embodiment, the base material (1) consists of water slide paper and such that the pattern of color coatings is wetted and transferred to the see-through panel by water slide transfer. In another embodiment, the base material consists of heat transfer paper and the pattern of color coatings is transferred by application of heat and pressure or just pressure alone.

22 Claims, 35 Drawing Sheets

